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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.           | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------------|------------------|
| 10/551,142   | 09/29/2005  | Martin Haubner       | 12810-00134-US1               | 4001             |
| 23416 7590 01/18/2007<br>CONNOLLY BOVE LODGE & HUTZ, LLP<br>P O BOX 2207<br>WILMINGTON, DE 19899 |             |                      | EXAMINER<br>KATAKAM, SUDHAKAR |                  |
|  |             |                      | ART UNIT                      | PAPER NUMBER     |
|  |             |                      | 1621                          |                  |
| SHORTENED STATUTORY PERIOD OF RESPONSE   |             | MAIL DATE            | DELIVERY MODE                 |                  |
| 3 MONTHS   |             | 01/18/2007           | PAPER                         |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/551,142

Applicant(s)

HAUBNER ET AL.

Examiner

Sudhakar Katakam

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 9/29/05.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Information Disclosure Statement*

1. The examiner has considered applicant's Information Disclosure Statement of 09/29/2005. Please refer to the signed copies of the PTO-1449 forms attached herewith.

### *Claim Rejections - 35 USC § 102 / 103*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-20 are rejected under 35 U.S.C. 102(b) / 103(a) as being unpatentable over **Kodama et al** (EP 1 361 243 A1) and **Salek et al** (US 5,532,417).

Instant claims are drawn to a process for the preparation of polyoxyalkylene glycols by copolymerization of tetrahydrofuran and neopentyl glycol in presence of heteropolyacid, wherein the total amount of all impurities, represented by formula (I), in the neopentyl glycol is less than 1000 ppm.

**Kodama et al** teaches a method of preparing oxytetramethylene glycol copolymer by copolymerizing tetrahydrofuran and neopentyl glycol in presence of heteropolyacid catalyst [see claim 2] and the preferred reaction temperature range of from 55 to 80°C [see 0083]. This method further comprises a saturated hydrocarbon in the reaction mixture [see claim 5]. In this process neopentyl glycol of 6-30% used, based on total molar amount of the tetrahydrofuran monomer units [see 0021 & Table 10]. The copolymerization reaction for producing an oxytetramethylene glycol copolymer can be performed in a batchwise manner or a continuous manner [see 0082].

**Kodama et al** also teaches a method for purifying an oxytetramethylene glycol, obtained by copolymerization of tetrahydrofuran and a diol represented by the formula (1) [see 0072] from a copolymerization reaction mixture comprising an oxytetramethylene glycol and unreacted diol by a continuous distillation process from 80 to 160°C [see 0116]. However, **Kodama et al** is silent on the amount of impurities present either in the reactants or in the products. If the neopentyl glycol used in the invention of Kodama et al is highly pure then the instant claims are anticipated. If the neopentyl glycol used in the invention of Kodama et al has more than the impurity as instantly claimed then the claims are obvious. It would have been obvious to one skilled in the

art to have used highly pure neopentyl alcohol as a matter of choice. One skilled in the art would have been motivated to use a highly pure reagent in order to minimize the purification process of the final product. The cited reference (**Salek et al**) clearly shows that high pure neopentyl alcohol was known prior to the filing of this application.

The dependent claims further narrow applicant's invention by describing purification methods, weight percentage etc. These limitations are all within the purview of an ordinary artisan. A skilled artisan would be motivated to vary conditions in order to optimize a process.

Some limitations of the dependent claims may not be expressly disclosed in **Kodama et al.** However, these limitations appear to be drawn to tweaking the process conditions, particularly single-stage process and reaction temperature range for the process. Changing such parameters is prima facie obvious because an ordinary artisan would be motivated to modify the conditions to optimize the process to get a better quality product.

### ***Conclusion***


6. Claims 1-20 are rejected.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhakar Katakam whose telephone number is 571-272-9929. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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